

**Missouri Department of
Natural Resources**



**McCracken
Core Library
and
Research Center**

**Division of Geology
and Land Survey**

MISSOURI DEPARTMENT OF
NATURAL RESOURCES

McCRACKEN CORE LIBRARY AND RESEARCH CENTER

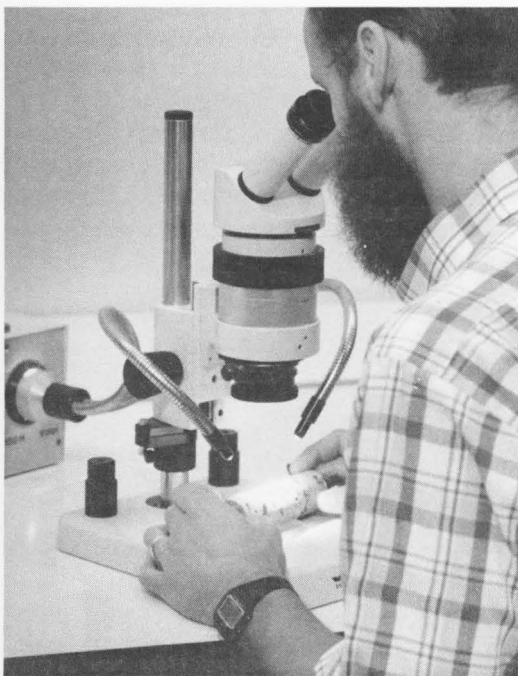
DIVISION OF GEOLOGY AND
LAND SURVEY

The Missouri Department of Natural Resources' McCracken Core Library is a valuable repository of geologic information. It houses one of the largest public collections of drilling core material in the nation.

The facility is maintained by the department's Division of Geology and Land Survey in Dietzmann Industrial Park, No. 1 Research Dr., Rolla. It is convenient to the division's offices, the University of Missouri-Rolla, Interstate 44, and local airports.

Core Preserves History

Most of the core in the library collection are exploration cores donated by mining companies that have conducted coring programs in the state. The collection includes core from more than 2,400 holes drilled in Missouri. Many were obtained during a search for minerals of economic value. At least 850 of the holes yielding core have been drilled into igneous basement rock that was formed more than 1.2 billion years ago.



Geologists enlarge core samples with a microscope to study minute details that provide information on permeability, porosity, and mineral content.

Because the cores often represent 1,000 feet or more of continuous drilling, they record a layered history of sedimentary geologic time that spans more than 500 million years.

The library has approximately 2.5 million lineal feet of core available for study and serves as a repository for privately and publicly donated core samples.

Core Research Benefits

Core research provides geologic information that

- leads to a better understanding of Missouri geology and hydrology;
- provides information on the permeability, porosity, and composition of

aquifers—components important to water quality and quantity;

- yields data on bedrock that is useful in solving environmental, industrial, and engineering problems. These problems often involve the siting of dams, reservoirs, hazardous waste facilities, municipal and private wastewater-treatment facilities, highways, and other surface structures;
- minimizes the number of holes drilled, thereby reducing the the number of holes that might lead to ground-water contamination;
- provides a cross section of bedrock strata that may contain economic mineral resources;
- helps construct a geologic framework for assessing Missouri's mineral resource potential; and
- allows students and scientists access to information about geological structures that cannot be accessed or evaluated by other means.

McCracken Core Library

The McCracken Core Library is named in honor of Earl and Mary (Hundhauser) McCracken whose service to the geological survey spanned more than three decades.

Earl McCracken was born Dec. 6, 1900, at Collins, Missouri, and joined the survey in 1935. Mary Hundhauser was born April 14, 1909, at Gray Summit, Missouri, and joined the survey in 1936. They were married in 1941 and have two children. Earl died June 21, 1959, and Mary, who continues her work, retired Jan. 31, 1970.

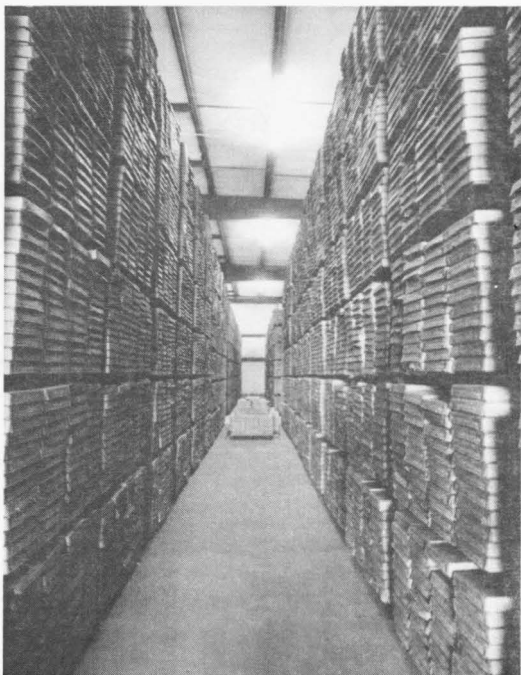
The McCrackens worked principally with the application of insoluble residue techniques in zoning of lower and middle Paleozoic strata.

Earl's most important contribution was the initiation of a series of strata and regional subsurface structural maps.

As a research geologist, Mary prepared the 1961 edition of the Geological Map of Missouri, and compiled the Structural Features Map of Missouri (1971) with accompanying text.

Together, the McCrackens coauthored Subsurface Maps of the Lower Ordovician (Canadian Series) of Missouri in 1965.

The Core Library is open Monday through Friday, 8 a.m. to 5 p.m. Persons who wish to use the facility should first stop at the Division of Geology and Land



The library contains approximately 2.5 million lineal feet of core from more than 2,400 holes drilled in Missouri. Each section of core, like the page of a book, reveals new information.

Survey, 111 Fairgrounds Road, to register, and to assure that staff will be available to assist them.

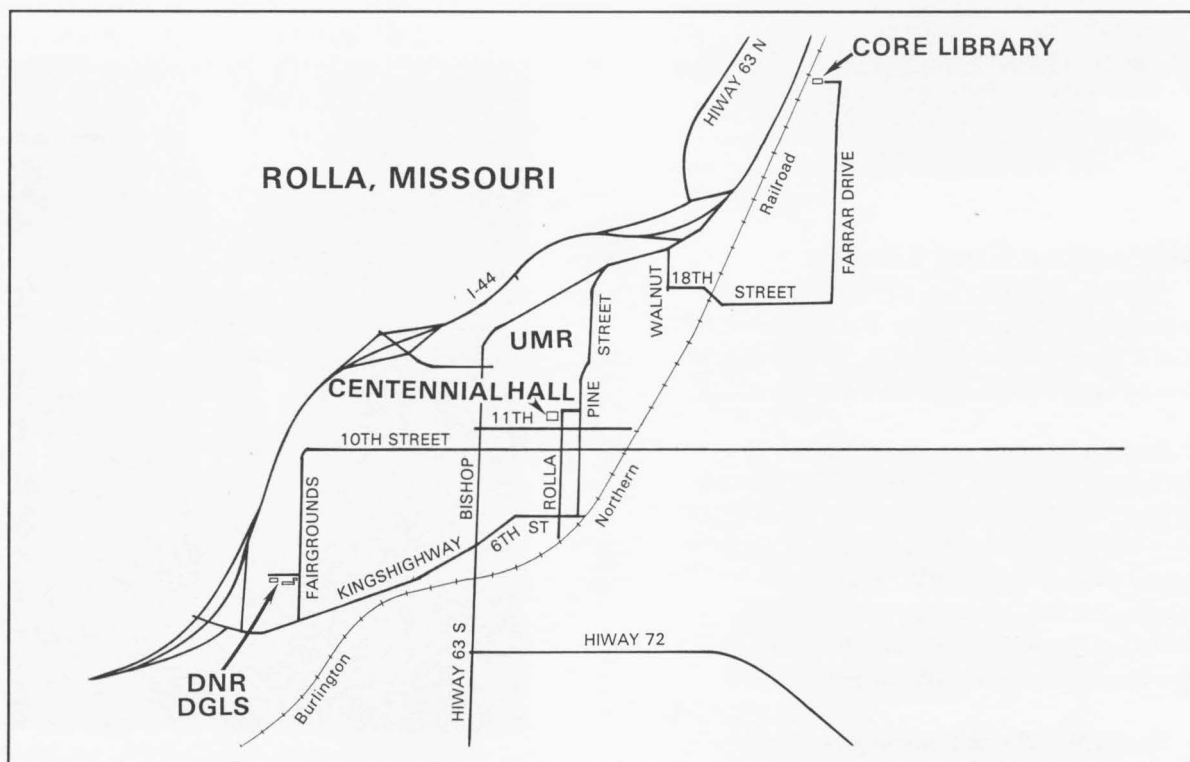
Comfortable, convenient, private on-site receiving, preparation, and examination rooms are available. Examination rooms are equipped with microscope, rock saw, rock splitter, and layout tables. Library stacks (core storage shelves) are closed, but support staff are available to assist visitors in retrieving core and laying it out where it can be logged, analyzed, and photographed.

Visitors who need more sophisticated core data than is available at the library can

arrange to obtain core samples for analysis by other sources.

Core are stored in 1 3/8-inch diameter cylinders about two feet long. There is 10 feet of core in each box. Computer printouts are available. Each printout lists all cataloged cores by county, company, location, total depth, bottom formation, cored interval, and the number of boxes available to the public.

For more information, write Missouri Department of Natural Resources, Division of Geology and Land Survey, P.O. Box 250, Rolla, MO 65401; or call (314) 364-1752.



Cover Photo: Sections of core reveal important details about the nature of the unseen rock layers below the surface of the earth.

Photographs by Nick Decker.

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